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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application Of: Hunter *et al.*

Serial No.: To Be Assigned

Filed: February 11, 2002

For: Environmental Cameras

Group No.:

Docket No. 30005967-2



**CLAIM OF PRIORITY TO AND
SUBMISSION OF CERTIFIED COPY OF UNITED KINGDOM APPLICATION
PURSUANT TO 35 U.S.C. §119**

Honorable Commissioner of
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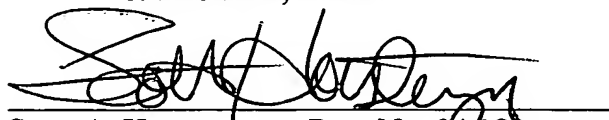
Sir:

In regard to the above-identified pending patent application and in accordance with 35 U.S.C. §119, Applicants hereby claim priority to and the benefit of the filing date of United Kingdom patent application entitled, "Environmental Cameras", filed February 20, 2001, and assigned serial number 0104080.7. Further pursuant to 35 U.S.C. §119, enclosed is a certified copy of the United Kingdom patent application

Respectfully Submitted,

**THOMAS, KAYDEN, HORSTEMEYER
& RISLEY, L.L.P.**

By:


Scott A. Horstemeyer, Reg. No. 34,183

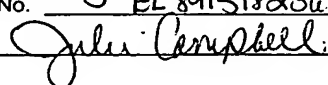
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I, the undersigned, being an officer duly authorised in accordance with Section 74(1) and (4) of the Deregulation & Contracting Out Act 1994, to sign and issue certificates on behalf of the Comptroller-General, hereby certify that annexed hereto is a true copy of the documents as originally filed in connection with the patent application identified therein.

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Dated 18 April 2001

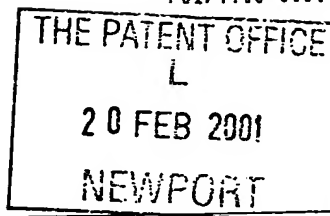
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P01/7700 0.00-0104080.7

Request for grant of a patent

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The Patent Office

Cardiff Road
Newport
South Wales
NP10 8QQ

30005967 GB

1. Your reference

0104080.7

2. Patent application number
(The Patent Office will fill in this part)

20 FEB 2001

3. Full name, address and postcode of the or of each applicant (underline all surnames)

Hewlett-Packard Company
3000 Hanover Street
Palo Alto
CA 94304, USA

Patents ADP number (if you know it)

Delaware, USA

496588004

If the applicant is a corporate body, give the country/state of its incorporation

4. Title of the invention Environmental Cameras

5. Name of your agent (if you have one)

"Address for service" in the United Kingdom to which all correspondence should be sent (including the postcode)

Richard A. Lawrence
Hewlett-Packard Ltd, IP Section
Filton Road
Stoke Gifford
Bristol BS34 8QZ

744803500

Patents ADP number (if you know it)

6. If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or of each of these earlier applications and (if you know it) the or each application number

Country

Priority application number
(if you know it)

Date of filing
(day / month / year)

7. If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application

Number of earlier application

Date of filing
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8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (Answer 'Yes' if:


Yes

- a) any applicant named in part 3 is not an inventor, or
 - b) there is an inventor who is not named as an applicant, or
 - c) any named applicant is a corporate body.
- See note (d))


Patents Form 1/77

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Continuation sheets of this form

Description	6
Claim(s)	3
Abstract	1
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Priority documents	-
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Statement of inventorship and right to grant of a patent (Patents Form 7/77)	1 
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Request for substantive examination (Patents Form 10/77)	-
Any other documents (please specify)	

Fee Sheet

11. I/We request the grant of a patent on the basis of this application.

Signature

Richard A. Lawrence

Date

19/02/01

12. Name and daytime telephone number of person to contact in the United Kingdom

Meg Joyce Tel: 0117-312-9068

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ENVIRONMENTAL CAMERAS

This invention relates to cameras and, in particular but not exclusively, to video cameras and the like such as those used in public places for security and/or surveillance.

The use of cameras in public places for security purposes is becoming increasingly common, particularly as cameras become cheaper and easier to manufacture. For example, video cameras and other image capture devices are commonly used in retail outlets and the like in an attempt to combat shoplifting and in other public places in an attempt to combat vandalism and other crimes. Such devices act as a deterrent as well as providing video evidence if a crime is committed.

As the use of surveillance cameras becomes more common, and image capture devices become more accessible to the public in general, so the concern of the public increases regarding the potential for an invasion of their privacy. At present, in an attempt to allay such fears, image capturing devices employed in public places are made visually conspicuous and signs indicating their presence are usually displayed.

However, this solution is not always ideal especially where the optimisation of space is an issue. Current technology already permits the manufacture of very small but powerful image capturing devices which, for the reasons outlined above, are then housed in relatively large casings so that they will be visually conspicuous. Not only is this an inefficient use of space and materials, but it does not prevent the unauthorised use of hidden surveillance cameras, which leads to mistrust and

discomfort for the general public. It is generally felt that the general public should have the right to be made aware of situations and locations where they may be watched, and current protocols are not considered to achieve this effectively in many circumstances.

We have now devised an arrangement which seeks to overcome at least some of the problems outlined above. In accordance with the present invention, there is provided an image capture device detection system, comprising indication means arranged to be installed in or on an image capture device, said indication means being configured to emit a periodic or continuous electronic indicator signal and/or to emit any type of indicator or signal in response to an external stimulus to indicate the presence of said image capture device.

The present invention also extends to an image capture device including a detection system as defined above.

Methods of detecting the external stimulus will depend on the nature of the stimulus. For example, if it is a noise, a microphone could be used. Alternative detectors include a passive infra-red detector, radar-based motion detector, identifying motion in camera images, etc.

It is envisaged to provide a protocol whereby it is compulsory to provide such indicating means on or in all image capturing devices which are intended to be or could be used in public places to observe the general public.

In one embodiment of the invention, the image capturing device may include means for generating an audible and/or visible signal in response to an external signal from, for example, a member of the general public. In its simplest

form, the external signal could, for example, be a hand clap. However, in a preferred embodiment, a remote detection unit may be provided (possibly in a wristwatch or personal organiser) which transmits intermittent
5 interrogation signals that can be received by an image capturing device within a predetermined area, causing it to emit a signal which is either audible and/or visible to the user of the remote unit, or which can be received by the detection unit, causing the detection unit to emit an
10 audible and/or visible signal to alert the user of the presence of a camera in the vicinity. Alternatively, the detection unit may be arranged to vibrate. The detection unit may also have a 'silence' mode in which the user is not alerted to the presence of a camera immediately.

15 In yet another embodiment of the invention, the image capturing device is simply arranged to transmit intermittent signals which, when received by a remote detection unit, cause said detection unit to emit an
20 audible, visible and/or tactile signal to alert the user of the presence of a camera in the vicinity.

In any event, the remote detection unit may be arranged to alert the user of the presence of the cameras when
25 specifically requested to do so, and it may be arranged to require explicit interaction from the user if it is required to review details of any cameras detected.

30 In one particularly preferred embodiment of the invention, the image capture device may include a radio receiver and decoder to receive and detect a query signal from a nearby remote detection unit. The image capture device would preferably also include a short range radio transmitter which, in response to the query signal, transmits a radio
35 signal which may include one or more of the following: an

identifier signal unique to that particular image capturing device (such as would be necessary for the remote detection unit to address the image capturing device over a wireless network), a code indicating the image capture device's capabilities, status information (i.e. which, if any, of its capabilities are active), details of the person or entity responsible for the image capture device and/or details of the people or groups of people authorised to access the images captured by the device, and even those accessing the images at any particular time. It may be compulsory for a person or entity to have a licence to use covert image capturing devices, in which case the radio signal may include licence details and/or the fact that the camera is unlicensed. In another embodiment, similar, details could be provided by the remote detection unit to the camera(s), e.g. what camera details are being requested, by whom, for what purpose, etc. Details sent to the camera could include details of a return communication channel, e.g. an e-mail address, to which the details should be sent, or the detector's wireless device address to enable a non-broadcast wireless communication with the camera.

The remote detection unit beneficially includes a display means on which at least some of the information transmitted by the image capture device is displayed to the user. The remote detection unit may also include storage means so that it can store information received from one or more image capture devices detected within a predetermined area.

An exemplary embodiment of the invention will now be described in more detail with reference to the accompanying drawing which is a schematic block diagram representing an image capture device detection system

according to the invention.

Referring to Figure 1, a camera 10 according to an exemplary embodiment of the present invention has incorporated therein a short range radio receiver and decoder 12 and a short range radio transmitter 18. The remote detection unit 14 further comprises a display screen 20.

A remote detection unit 14 carried or worn by a user also comprises a short range radio receiver and decoder 16 and a short range radio transmitter 18. The remote detection unit 14 further comprises a display screen 20.

The radio transmitter 18 in the remote detection unit 14 transmits intermittent query signals 22. When the remote detection unit 14 is within a predetermined range or distance of the camera 10, the receiver and decoder 12 in the camera 10 receive the query signal(s) and, in response thereto, transmit a short range radio signal 24 which is received by the remote detection unit receiver and decoder 16.

One known protocol which could be used to achieve this is provided by the Bluetooth™ technology which permits instant, wireless connections to be made between various devices having a microchip incorporation a radio transceiver build into them, and supports both point-to-point and point-to-multipoint connections. This technology facilitates fast and secure transmissions of data, even when the devices are not within line-of-sight, and because it uses radio transmission, transfer of data is in real-time. The Bluetooth™ radio operates in a globally available frequency band which enables communication compatibility worldwide, and the technology

is designed to be fully functional even in very noisy radio environments. Further, all data is protected by error-correction protocols, as well as encryption and authentication routines for the users' privacy.

5

In this embodiment, the radio signal 24 includes a unique identifying signal, a code indicating the camera's capabilities, status information and information relating to the person or entity responsible for the camera. The
10 decoder in the remote detection unit 14 decodes the radio signal 24 and displays some or all of said information on the display screen 20.

A specific embodiment of the present invention has been
15 described above by way of example only, and it will be apparent to a person skilled in the art that modifications and variations can be made to the described embodiment without departing from the scope of the invention as defined in the appended claims.

Claims

1) An image capture device detection system, comprising indicator means arranged to be installed in or on an image capture device, said indicator means being configured to emit a periodic or continuous electronic indicator signal, and/or to emit any type of indicator signal in response to an external stimulus to indicate the presence of said image capture device.

2) A detection system according to claim 1, comprising means for generating an audible and/or visible signal.

3) A detection system according to claim 2, wherein said external stimulus signal is due to the presence or action of a member of the general public, such as a noise (e.g. hand clap) or motion.

4) A detection system according to claim 2, further comprising a remote detection unit arranged to transmit one or more query signals, a receiver in or on said image capture device being arranged to receive said query signals when said remote detection unit is within a predetermined distance thereof, said indicator means being arranged, in response to receipt of a query signal, to display or transmit a signal to indicate the presence of the image capture device.

5) A detection system according to claim 4, wherein said query signals are periodically/intermittently transmitted when the system is in use, and/or said query signals are transmitted in response to user interaction with said system, and/or said query signals are transmitted in response to a predetermined event, e.g. movement of said detection unit.

6) A detection system according to claim 4 or claim 5, wherein said indicator means transmits an indicator signal in response to receipt of said query signal, said remote detection unit including receiver means for receiving said indicator signal.

7) A detection system according to claim 1, comprising a transmitter in or on said image capture device arranged to transmit intermittent or triggered indicator signals, the system further comprising a remote detection unit including a receiver arranged to receive said indicator signals when said remote detection unit is within a predetermined distance or range of said image capture device.

8) A detection system according to claim 6 or claim 7, including alarm means arranged, in response to receipt of said indication signal, to activate an audible, visible or tactile alarm to alert a user to the presence of the image capture device.

9) A detection system according to claims 6, 7 or 8, wherein said indicator means comprises a short range radio transmitter for transmitting a radio signal, and said remote detection unit comprises a radio receiver and decoder for receiving and decoding said radio signal when said remote detection unit is within a predetermined distance or range of said image capture device.

10) A detection system according to claims 6, 7 or 8, wherein said indicator means comprises an infra-red transmitter for transmitting an infra-red signal, and said remote detection unit comprises an infra-red receiver for receiving infra-red signal when said remote detection unit is within the field of view of said image capture device.

11) A detection system according to claim 7, wherein said signal transmitted by said indicator means includes one or more of the following: a unique identifier signal, a code indicating the image capture device's capabilities, status information, details of the person or entity responsible for the image capture device, and/or details of the people or groups of people authorised to access images captured by the image capture device.

12) A detection system according to claim 11, wherein actuation of the alarm is dependent upon one or more of the details included in the signal transmitted by said indicator means.

13) A detection system according to claim 11, wherein said remote detection unit comprises display means for displaying at least some of the information included in said radio signal received from said indicator means.

14) A detection system according to claim 11 or claim 13, comprising storage means for storing at least some of the information included in said radio signal received from said indicator means.

15) A detection system substantially as herein described with reference to the accompanying drawings.

16) An image capture device including a detection system according to any one of the preceding claims.

17) An image capture device substantially as herein described with reference to the accompanying drawing.

Abstract

5 An image capture detection system including a short
range radio transmitter (13) and a short range radio
receiver and decoder (12) installed in or on an image
capture device (10). The system further comprises a
remote detection unit (14) also comprising a short range
radio transmitter (18) and a short range radio receiver
and decoder (16). In use, the remote detection unit (14)
10 transmits intermittent query signals (22) which are
received by the receiver (12) in the image capture device
(10) when the remote detection unit (14) is within a
predetermined distance or range thereof. In response to
receipt of the query signals (22), the transmitter (13) in
15 the image capture device (10) is arranged to transmit an
indicator signal (24) which is received by the remote
detection unit (14). The remote detection unit (14) is
arranged to generate a warning signal in response to
receipt of the indicator signal ((24).

20 [Figure 1]

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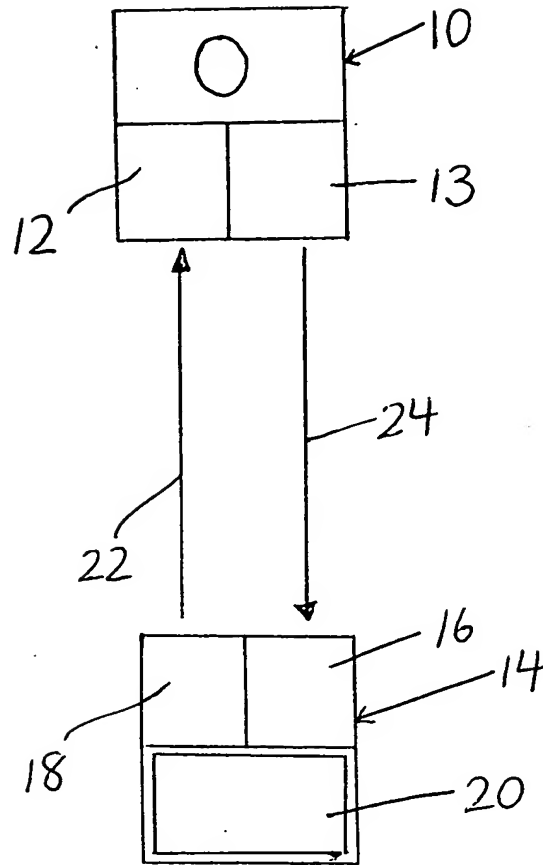


FIG. 1

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